

Income and Health in Cities: the Messages from Stylized Facts

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ABSTRACT *The benefits of good health to individuals and to society are strongly positive, and improving the health of the poor is a key millennium development goal (MDG). A typical health strategy advocated by some calls for increased public spending on health targeted to favor the poor backed by foreign assistance, combined with an international effort to perfect drugs and vaccines to ameliorate the major infectious diseases prevalent in developing nations. However, if the objective is better health outcomes at the least cost and a reduction in urban health inequity, our research suggests that the four most potent policy interventions are: improving access to clean water and sanitation; widely available primary care and health programs aimed at influencing diets and lifestyles; raising the level of education; and better urban land use and transport planning which contains urban sprawl and minimizes the trend towards sedentary living habits. The payoff from these four, in terms of health outcomes especially for those in low-income categories, dwarfs the returns from new drugs and curative hospital-based medicine, although these certainly have their place in a modern urban health system. We find, moreover, that the resource requirements for successful health care policies are likely to depend on an acceleration of economic growth rates, which increase household purchasing power and enlarge the pool of resources available to national and subnational governments to invest in and maintain health-related infrastructure and services. Thus, an acceleration of growth rates may be necessary to sustain a viable urban health strategy, which is equitable, and to ensure steady gains in health outcomes.*

KEYWORDS *Cities, Growth, Health, Income, Sanitation, Water.*

COMPETING OBJECTIVES

The returns from improvements in health are estimated to be very large. Whether it is an increase in life expectancy, health during early childhood, or health during peak earning years, or health in the twilight years, the benefits to individuals and to society are strongly positive, and according to some researchers, overshadow the gains from most other investments. Hence, it is not surprising that improving the

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health of the poor is a key Millennium Development Goal.* A typical solution advocated by some is increased public spending on health targeted to favor the poor and backed by foreign assistance and by an international effort to perfect drugs and vaccines to ameliorate infectious diseases bedeviling the developing nations.²

However, now that most developing countries are at the stage of rapid urbanization, and many have begun to industrialize, there are multiple and urgent claims on scarce resources, domestic and foreign. Measures to improve health outcomes are among the priorities, but they are, by no means, the only ones, and in most countries, the share of resources allocated for health is relatively modest. Hence, from among various options for utilizing these finances, countries need to select those which will deliver the desired results most expeditiously given their individual circumstances. Decisions regarding the mix of policies adopted to attain multiple health objectives are necessarily based on evidence that can be fragmentary and conflicting, but the vast amount of research conducted is helping to identify a number of stylized facts.

INCOME, URBANIZATION, AND URBAN HEALTH: THE VIEW FROM STYLIZED FACTS

The purpose of this paper is to briefly present some key stylized facts linking economic growth and urbanization with health outcomes and use these to propose health policies likely to have the greatest impact especially in the earlier stages of development.³ We argue that improvements in overall urban health conditions and in health equity depend to a substantial extent on the rapid growth of urban incomes, which help to lift people out of poverty. We also maintain that an expanding urban gross domestic product (GDP) is necessary to sustain education and primary health care programs, which strongly impinge on the health status of lower income groups. In addition, a growing urban economy generates the capital to help build the vital water, sanitation, and housing infrastructure, which underpin urban health. Foreign aid can assist poor countries to initiate health programs and partially finance urban infrastructure, but most of the resources to promote health outcomes must be found from domestic sources.

Population and Economic Growth will be Urban Centered

The worldwide trend towards urbanization is irreversible and could accelerate.[†] The urban sector currently accounts for more than 55% of GDP in the low-income countries and 85% in the industrialized countries.⁵ It will generate the bulk of future economic growth and new employment. For these reasons, the urban sector will be the focus of economic policies encompassing growth and health.⁶

*In fact, three out of eight goals specified in the MDGs are directly related to health. These are: reduction in child mortality; improvement in maternal health; and combating HIV/AIDS, malaria, and other diseases. In addition, 8 of the 18 targets are health-related. When Bjorn Lomborg recently asked 10 ambassadors to the UN as to their priorities if they had \$50 billion to spend, their top three choices were scaled up health services to protect against communicable diseases; improved water supply and sanitation; and increased education.¹

[†]The urban population has risen from 732 million in 1950 to over 3.2 billion in 2006.⁴

More of the Poor will be Living in Cities

Poverty is on a trend line to becoming a predominantly urban phenomenon, with its scale largely determined by the pace of migration and on how many and what kinds of jobs are created in cities.

Urban Poverty Begets Slums

Migration to urban centers all too frequently results in the emergence or spread of slums. These slums can adversely affect the business climate in cities, and they can be the source of poverty traps for slum dwellers. Continuing migration to cities, unless matched by investment in suitable urban infrastructure, will lead to an increasing incidence of slums, which could constrain the economic prospects of major urban centers.

Poverty and Slums Equal Greater Health Inequity

Slums are largely a consequence of mismatches between the flows of migrants and the absorptive capacity of cities. Once formed, slums perpetuate and even worsen the health status of the inhabitants because of lack of access to basic infrastructure and public services. They can widen urban income inequality often by trapping slum dwellers in low-end casual jobs and contribute to health inequity.

Rising Incomes Can Directly Improve Health Status and Lessen Health Inequity by Financing Provision of Public Goods

Raising the growth of GDP is the surest way of reducing poverty.⁷⁻⁹ This is borne out by cross-country analysis and by longitudinal country studies in China and India, for example. Moreover, growth generates the resources for additional expenditure on social services and on physical infrastructure that affect overall public health and can lead to further gains in health especially for those in the lower income groups.*

Capital (Physical and Human) and TFP Drive Growth in Industrializing Countries

The principal determinant of growth in developing countries, and most notably, the industrializing economies of East Asia, is always capital, followed by labor-human

*Soares notes that the health consequences of public goods are more evenly distributed across income groups than advances in medical technologies and curative care, which favor the better educated and wealthier households.¹⁰ Causation between income growth and health status runs both ways and omitted variables such as technologies, differences in health sector institutions, and specific interventions remain sources of bias and error, especially for cross-country analysis.¹¹ Using detailed data on mortality in seven European countries, Janssen, Kunst, and Mackenbach find that GDP levels prevailing at specific ages affect the subsequent mortality rates.¹² This differs significantly between men and women. Men are affected by the GDP at the age of 20–49, while women are affected the most by GDP when they are 50–64. Another point of view is that, “The direct influence of wealth on health may be strongest during childhood and early adulthood when levels and trajectories of health stocks become established ... The dominant causal direction may then reverse as health largely affects wealth among those age 50 and older.”¹³ Using terms-of-trade shocks as an instrument for GDP growth, Pritchett and Summers find that 40% of the differences in mortality rates across countries can be attributed to differences in the growth rates in the previous decades.¹⁴ However, 60% of the variation is still unexplained and significant improvements in health are rarely seen after rapid expansion of an economy.¹⁵ For a detailed discussion on this issue, see Yusuf, Nabeshima, and Ha.³

capital—and then by total factor productivity (TFP) arising from transfer of workers to urban jobs, more efficient use of resources, and technological advances.

Income Inequality Follows in the Wake of GDP Growth

In many instances, recent economic growth in the developing world has been associated not just with rising incomes but also with rising income inequality (at varying rates).^{*} This inequality stems from household income cleavages between the rural and urban sectors, among regions—with coastal regions often registering more favorable economic outcomes—and to a lesser extent, among households in urban areas. Income inequality can be contained by the increase in well-paid jobs in manufacturing and producer services, which help to augment the middle class. But the decline in the share of such jobs underlies rising inequality in cities as diverse as São Paulo, Hong Kong, Singapore, Karachi, and Jakarta. Although governments have resorted to a variety of social and fiscal policies to reduce inequality, few have proven effective.

Income Inequality Does Not Impact on Health Conditions

Income inequality does not appear to affect population health directly. Poverty, however, is correlated with intra-urban health inequity, and poverty does influence mortality—especially infant and child mortality—through several channels.^{22,23} Poverty and inequality together may lead to the erosion of social capital in urban areas and aside from eroding community support systems, could be responsible for increasing crime and violence against persons and property which disproportionately impinges upon the well-being of the poor.

Clean Water and Sanitation Make Healthy Cities

Rising per capita urban incomes can set the stage for investment in water and sanitation infrastructure and its maintenance so as to provide the broad mass of the urban population with access to affordably priced and reliable services. Furthermore, investment in urban infrastructure was and is a key driver of growth and employment.

From Stylized Facts to Policy Priorities

These nine stylized facts, when threaded together, present us with a particular perspective on the dynamics of urban economic growth and its relationship to population health. In capsule, the momentum of urbanization shows no sign of abating, and as the center of gravity of most economies has shifted towards industry and services, the urban sector is where most of the GDP is now concentrated and which leads growth. With urbanization, poverty is also migrating to cities. As rural inhabitants relocate in urban centers, the inadequacy of housing and services is resulting in the spread of slums, which is compounding the health problems associated with poverty.²⁴ Because poverty underlies the parlous state of population

^{*} Although the precise relationship between the level of income or its growth and inequality is hard to ascertain and the relationships is likely to be nonlinear,^{16–18} an apparent trend in recent years is the increase in inequality within countries.^{19,20} For instance, China's Gini has risen from 31 in 1981 to 45 in 2001.²¹ Even in Korea and Japan, which are perceived as countries with the most equal distribution, Gini coefficients are increasing.

health across cities in the developing world, rapid growth in incomes is a necessary step to alleviating health conditions, although it may be by no means sufficient.*

Income growth is the surest way of reducing poverty; however, experience shows that growth, when it is not led by buoyant manufacturing and producer services sectors, is frequently paralleled with worsening income inequality. Inequality, although it is a less desirable consequence of rapidly increasing GDP, need not apparently affect population health as measured by longevity.†

The more positive aspect of GDP growth for health is that it can facilitate the financing of the water, sanitation, and housing infrastructure, which is an absolute precondition for a healthy city. Such investment helps the most disadvantaged, and hence, can be inequality reducing. Providing an adequate volume of primary health and education services is a complementary step, which requires a significant initial investment and then continuing outlay on maintenance, expansion, and improvement. While the initial investments in low-income countries can be financed through foreign aid, subsequent upkeep and expansions do not seem practically feasible until urban GDP has crossed a certain threshold and is on an upward trend.‡

A CORE POLICY AGENDA

Achieving the MDG target of halving the proportion of people without access to water and sanitation would cost about \$10 billion per year even using low-cost technology.²⁶ Such resources are more abundant (and less costly) when an economy is growing rapidly, including the resources to maintain and expand this infrastructure in line with needs.§,||

A substantial literature shows that education and skills contribute to overall GDP growth and are closely connected with the industrial dynamism of cities, with the start up of new firms and with the proliferation of technology intensive activities.^{30–33} It is also well-known that the education of mothers has a profound bearing on the health and well-being of children. The biggest gains are derived from increasing the education level of women at the lower end of the scale. In addition, it is becoming apparent that the ability to adopt safe sex practices and protective behavior and utilize health care effectively is closely dependent upon education.¹⁰ Thus, education is good for GDP growth, for urban economic performance and

*It is important to emphasize that this is a necessary, but by no means, a sufficient condition because we do not always find this correlation between growth and health conditions except in the long run.

†“For constant levels of income, life expectancy has been rising and particularly so for poorer countries (since the 1930s). After 1990, the devastating effect of AIDS changed this trend for the very low-income levels. By any measure, there is no evidence of reduction in income inequity across countries up to the 1990s.”¹⁰

‡In a decentralized fiscal system, this also depends on the development of local financing options. See Cutler and Miller for an assessment based on past U.S. experience.²⁵

§The cost of providing safe water is high, estimated to be around \$10 per month per household.²⁷ Using 5% of income as cutoff for affordability, 30–50% of urban households in Honduras, Nicaragua, and Bolivia will find it difficult to afford access to water at such a price. Of the households in East Asia, 35%, and 55% of households in India and in sub-Saharan Africa countries would also face difficulties.^{27,28} However, as price is the best way to encourage economical use of resources, water usage fees would need to be in place.²⁸

||Most of these are also top priorities identified by the Copenhagen Consensus framework.²⁹

employment, and is a precondition for maximizing the benefits of health care. It is a critical multiplier of health expenditures.

In many low and middle income countries, chronic diseases now loom as large as infectious diseases in urban areas because of changes in lifestyles. These lifestyle trends can possibly be ameliorated through the better design of transport and land use policies, which can help to reduce urban air pollution and reverse the progressive sedentariness of living habits underlying the epidemic of obesity and the chronic diseases associated with it. These policies can be reinforced by means of health campaigns backed up by an effective, well-funded primary health care system to modify behavior.³⁴ Relying mainly on the heavy artillery of expensive and often ineffectual curative medicine may not be a cost-effective approach.

The payoff from these four areas—infrastructure, primary health care, education and urban and transport design—in terms of health outcomes would completely dwarf the returns from new drugs and curative hospital-based medicine, which we hasten to add, have their place in a modern urban health system but deserve less priority in resource-strapped low- and middle-income countries.

Reducing poverty and mobilizing adequate resources for building urban infrastructure and providing social services commensurate with needs in developing and industrializing countries depends on sustaining high rates of growth. Rapid growth does not ensure better health outcomes but without it, the ambitious objectives for improving urban health and lessening inequity cannot be realized. How countries can imitate the East Asian Miracle remains the \$64 million question to which plausible answers are at hand and which is attracting much new research.

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